

113837



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SUITE 300
ANNAPOLIS, MD 21401
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DATE: NOVEMBER 17, 1989

SUBJECT: INORGANIC DATA VALIDATION, SAS4845C-Task 2
SITE: KEYSTONE SANITATION

FROM: MAHBOOBEH MECANIC *M*
ESAT SENIOR INORGANIC DATA REVIEWER

TO: THERESA A. SIMPSON
ESAT DEPUTY PROJECT OFFICER

THRU: RICHARD D. DRESSER *R.D.*
ESAT ACTING TEAM MANAGER

OVERVIEW

The set of samples for SAS 4845C-Task 2 contained sixty-four (64) soil samples, which were analyzed through the Contract Laboratory Program (CLP) Special Analytical Services (SAS). The method used is defined in Method CE-81-1 of Procedures for Handling and Chemical Analysis of Sediment and Water Samples, prepared for U. S. Environmental Protection Agency/Corps of Engineers, May 1981. The sample set contained six (6) field duplicate pairs.

SUMMARY

Total organic carbon was successfully analyzed in all samples. Two (2) concerns with respect to data usability are listed below:

MINOR ISSUES

The laboratory duplicate results were outside of the control limit. Therefore, the reported results have been qualified estimated "J".

The correlation coefficients of the calibration standard curve were <0.995. Therefore, the reported results for the affected samples have been qualified estimated "J".

AR305920



NOTES:

The SAS required a detection limit of 10 mg/Kg for the TOC analysis, however, the laboratory was not able to meet this detection limit, instead a detection limit of 200 mg/Kg was reported.

The data was reviewed in accordance with the National Functional Guidelines for Evaluating Inorganic Analyses.

INFORMATION REGARDING REPORT CONTENT

Table 1A is a summary of qualifiers added to the laboratory's results during evaluation.

ATTACHMENTS

TABLE 1A	SUMMARY OF QUALIFIERS ON DATA SUMMARY AFTER DATA VALIDATION
TABLE 1B	CODES USED IN COMMENTS COLUMN
TABLE 2	GLOSSARY OF DATA QUALIFIER CODES
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APPENDIX B	DPO REPORT
APPENDIX C	SUPPORT DOCUMENTATION

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TABLE 1A

SUMMARY OF QUALIFIERS ON DATA SUMMARY
AFTER DATA VALIDATION

<u>ANALYTE</u>	<u>SAMPLES AFFECTED</u>	<u>POSITIVE VALUES</u>	<u>NON-DETECTED VALUES</u>	<u>BIAS</u>	<u>COMMENTS*</u>
TOC	4845C-Task 2-03- 4845C-Task 2-20	J			A (37%, 84%) B (0.9932)
	4845C-Task 2-21 4845C-Task 2-39 4845C-Task 2-41- 4845C-Task 2-45	J			A (37%, 84%)
	4845C-Task 2-01; 4845C-Task 2-02; 4845C-Task 2-40; 4845C-Task 2-46- 4845C-Task 2-64	J			A (37%, 84%) B (0.9891)

* See explanation of comments in Table 1B

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TABLE 1B
CODES USED IN COMMENTS COLUMN

A = The laboratory duplicate results were outside of the control limit, RPD >35% (relative percent difference is in parentheses). Therefore, the reported results are estimated.

B = The correlation coefficient of the calibration standard curve was <0.995 (value is in parentheses). Therefore, reported results are estimated.



TABLE 2

GLOSSARY OF DATA QUALIFIER CODES (INORGANIC)

CODES RELATED TO IDENTIFICATION

(confidence concerning presence or absence of analytes):

U = Not detected. The associated number indicates approximate sample concentration necessary to be detected.

(NO CODE) = Confirmed identification.

B = Not detected substantially above the level reported in laboratory or field blanks.

R = Unreliable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm result.

CODES RELATED TO QUANTITATION

(can be used for both positive results and sample quantitation limits):

J = Analyte Present. Reported value may not be accurate or precise.

K = Analyte present. Reported value may be biased high. Actual value is expected to be lower.

L = Analyte present. Reported value may be biased low. Actual value is expected to be higher.

[] = Analyte present. As values approach the IDL the quantitation may not be accurate.

UJ = Not detected, quantitation limit may be inaccurate or imprecise.

UL = Not detected, quantitation limit is probably higher.

OTHER CODES

Q = No analytical result.

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DATA SUMMARY FORM: Total Organic Carbon

Site Name: Keystone Sanitation

SAS Case #: 4845C **Sampling Date:** 8/28-30/89

**SOIL SAMPLES
(mg/Kg)**

* Due to dilution, sample quantitation limit is affected.
See dilution table for specifics.

Sample No.	-11	-12	-13	-14	-15	-16	-17	-18	-19	-20
Dilution Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
% Solids	86	90	82	84	82	83	82	83	92	92
Location										

Field Dup.
of -50

ANALYTE

200	TOC	4.320	J	1010	J	3130	J	8500	J	1060	J	8330	J	1720	J	2460	J	3300	J	2150	J
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CRDL = Contract Required Detection Limit

* prefix of all samples

SEE NARRATIVE FOR CODE DEFINITIONS

DATA SUMMARY FORM: Total organic Carbon

Site Name: Keystone Sanitation

SOIL SAMPLES

Case #: 4945C Date: 8/27-30/87

Sampling Task 2 *

Dilution Factor
% Solids
Location

RDL ANALYTE

200 TOC

331 J

792 J

4920 J

4890 J

5950 J

3060 J

4530 J

2860 J

5160 J

2370 J

* Due to dilution, sample quantitation limit is affected.
See dilution table for specifics.

mg/Kg

Sample No.

Dilution Factor

% Solids

Location

-21
1.0
95
Field Dsp.
of -51

-22
1.0
91

-23
1.0
83

-24
1.0
87

-25
1.0
82

-26
1.0
84

-27
1.0
90

-28
1.0
77

-29
1.0
82

CR 375927

CSDL = Contract Required Detection Limit

* Prefix of all samples

SEE NARRATIVE FOR CODE DEFINITIONS

DATA SUMMARY FORM: Total Organic carbon

Site Name: Keystone Sanitation
 Case #: 4845C Sampling Date: 9/28-30/89

SOIL SAMPLES
(mg/Kg)

*Due to dilution, sample quantitation limit is affected.
 See dilution table for specifics.

Sample No.	-41	-42	-43	-44	-45	-46 <th>-47</th> <th>-48</th> <th>-49</th> <th>-50</th>	-47	-48	-49	-50
	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Dilution Factor	87	81	89	92	93	93	72	76	79	85
% Solids										
Location										

CRDL ANALYTE

20D	TOC	4360	J	3740	J	6540	J	4520	J	2820	J	5320	J	5460	J	1490	J

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CRDL = Contract Required Detection Limit

* Prefix of all samples

SEE NARRATIVE FOR CODE DEFINITIONS

Table 3

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DATA SUMMARY FORM: Total organic carbon

Site Name: Keystone Sanitation
 S.A.S. Case #: 4845C Task 2 Sampling Date: 8/28-9/5/87

SOIL SAMPLES

(mg/Kg)

*Due to dilution, sample quantitation limit is affected.
 See dilution table for specifics.

Sample No.	4945C-TASK 2*									
	Dilution Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
1.0	-52	-53	-54	-55	-56	-57	-58	-59	-60	-60
2.0	82	88	79	43	76	84	56	70	1.0	1.0
3.0										
4.0										
5.0										
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96.0										
97.0										
98.0										
99.0										
100.0										

CRDL = Contract Required Detection Limit

* Prefix of all samples

SEE NARRATIVE FOR CODE DEFINITIONS

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APPENDIX A

RESULTS REPORTED BY LABORATORY

FORM I'S

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ENVIRONMENTAL INDUSTRIAL RESEARCH ASSOCIATES, INC.
 161 James Drive West, Suite 100
 St. Rose, Louisiana 70087
 (504) 469-0333

LABORATORY REPORT

Prepared for: SMO-SAS

Laboratory Number: S908UB
 Date Received: 08/31/89

Job Number: SAS-4845C

RESULTS

4845C TASK 2-01

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	2230	mg/kg	227
Total Solids	88	%	-

4845C TASK 2-02

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	2340	mg/kg	227
Total Solids	88	%	-

4845C TASK 2-03

DATE/TIME SAMPLED: 08/28/89 09:40:00

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	3940	mg/kg	227
Total Solids	88	%	-

4845C TASK 2-04

DATE/TIME SAMPLED: 08/28/89 10:00:00

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	2520	mg/kg	232
Total Solids	86	%	-

4845C TASK 2-05

DATE/TIME SAMPLED: 08/30/89 11:15:00

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	5990	mg/kg	286
Total Solids	70	%	-

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4845C TASK 2-06
DATE/TIME SAMPLED: 08/30/89 11:45:00

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	2680	mg/kg	253
Total Solids	79	%	-

4845C TASK 2-07
DATE/TIME SAMPLED: 08/30/89 10:45:00

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	8920	mg/kg	253
Total Solids	66	%	-

4845C TASK 2-08
DATE/TIME SAMPLED: 08/30/89 11:00:00

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	2760	mg/kg	250
Total Solids	80	%	-

4845C TASK 2-09
DATE/TIME SAMPLED: 08/30/89 10:00:00

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	5910	mg/kg	250
Total Solids	80	%	-

4845C TASK 2-10
DATE/TIME SAMPLED: 08/30/89 10:15:00

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	3710	mg/kg	247
Total Solids	81	%	-

4845C TASK 2-11
DATE/TIME SAMPLED: 08/30/89 09:15:00

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	4320	mg/kg	232
Total Solids	86	%	-

Lab Number: S908UB
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4845C TASK 2-12
 DATE/TIME SAMPLED: 08/30/89 09:35:00

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	1010	mg/kg	222
Total Solids	90	%	-

4845C TASK 2-13
 DATE/TIME SAMPLED: 08/29/89 07:55:00

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	3130	mg/kg	244
Total Solids	82	%	-

4845C TASK 2-14
 DATE/TIME SAMPLED: 08/29/89 08:15:00

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	2500	mg/kg	238
Total Solids	84	%	-

4845C TASK 2-15
 DATE/TIME SAMPLED: 08/29/89 08:30:00

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	1060	mg/kg	244
Total Solids	82	%	-

4845C TASK 2-16
 DATE/TIME SAMPLED: 08/29/89 08:40:00

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	2330	mg/kg	240
Total Solids	83	%	-

4845C TASK 2-17
 DATE/TIME SAMPLED: 08/28/89 11:50:00

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	1770	mg/kg	244
Total Solids	82	%	-

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4845C TASK 2-18
DATE/TIME SAMPLED: 08/28/89 12:05:00

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	2660	mg/kg	241
Total Solids	83	%	-

4845C TASK 2-19
DATE/TIME SAMPLED: 08/28/89 11:20:00

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	3300	mg/kg	217
Total Solids	92	%	-

4845C TASK 2-20
DATE/TIME SAMPLED: 08/28/89 11:35:00

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	2150	mg/kg	222
Total Solids	90	%	-

4845C TASK 2-20 (DUP.)
DATE/TIME SAMPLED: 08/28/89 11:35:00

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	1480	mg/kg	225
Total Solids	89	%	-

4845C TASK 2-21
DATE/TIME SAMPLED: 08/28/89 14:00:00

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	331	mg/kg	210
Total Solids	95	%	-

4845C TASK 2-22
DATE/TIME SAMPLED: 08/28/89 14:15:00

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	792	mg/kg	220
Total Solids	91	%	-

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4845C TASK 2-23
 DATE/TIME SAMPLED: 08/28/89 14:45:00

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	4820	mg/kg	240
Total Solids	83	%	1

4845C TASK 2-24
 DATE/TIME SAMPLED: 08/28/89 15:00:00

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	4890	mg/kg	230
Total Solids	87	%	-

4845C TASK 2-25
 DATE/TIME SAMPLED: 08/28/89 15:15:00

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	5950	mg/kg	274
Total Solids	73	%	-

4845C TASK 2-26
 DATE/TIME SAMPLED: 08/28/89 15:30:00

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	3060	mg/kg	244
Total Solids	82	%	-

4845C TASK 2-27
 DATE/TIME SAMPLED: 08/28/89 16:10:00

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	4530	mg/kg	238
Total Solids	84	%	-

4845C TASK 2-28
 DATE/TIME SAMPLED: 08/28/89 16:25:00

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	2860	mg/kg	222
Total Solids	90	%	-

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Lab Number: S908UB
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4845C TASK 2-29
 DATE/TIME SAMPLED: 08/29/89 10:45:00

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	5160	mg/kg	260
Total Solids	77	%	-

4845C TASK 2-30
 DATE/TIME SAMPLED: 08/29/89 11:00:00

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	2370	mg/kg	244
Total Solids	82	%	-

4845C TASK 2-31
 DATE/TIME SAMPLED: 08/29/89 10:00:00

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	1700	mg/kg	235
Total Solids	85	%	-

4845C TASK 2-32
 DATE/TIME SAMPLED: 08/29/89 10:15:00

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	1810	mg/kg	227
Total Solids	88	%	-

4845C TASK 2-33
 DATE/TIME SAMPLED: 08/30/89 08:20:00

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	3970	mg/kg	244
Total Solids	82	%	-

4845C TASK 2-34
 DATE/TIME SAMPLED: 08/30/89 08:35:00

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	2420	mg/kg	230
Total Solids	87	%	-

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4845C TASK 2-35
 DATE/TIME SAMPLED: 08/30/89 13:30:00

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	2550	mg/kg	225
Total Solids	89	%	-

4845C TASK 2-36
 DATE/TIME SAMPLED: 08/30/89 13:45:00

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	1070	mg/kg	232
Total Solids	86	%	-

4845C TASK 2-37
 DATE/TIME SAMPLED: 08/30/89 15:00:00

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	3150	mg/kg	225
Total Solids	89	%	-

4845C TASK 2-38
 DATE/TIME SAMPLED: 08/30/89 15:15:00

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	4480	mg/kg	230
Total Solids	87	%	-

4845C TASK 2-39
 DATE/TIME SAMPLED: 08/29/89 13:00:00

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	1860	mg/kg	238
Total Solids	84	%	-

4845C TASK 2-40
 DATE/TIME SAMPLED: 08/29/89 13:15:00

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	1920	mg/kg	235
Total Solids	85	%	-



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4845C TASK 2-40 (DUP.)
DATE/TIME SAMPLED: 08/29/89 13:15:00

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	1440	mg/kg	238
Total Solids	84	%	-

4845C TASK 2-41
DATE/TIME SAMPLED: 08/29/89 13:25:00

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	4360	mg/kg	230
Total Solids	87	%	-

4845C TASK 2-42
DATE/TIME SAMPLED: 08/29/89 13:40:00

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	3740	mg/kg	247
Total Solids	81	%	-

4845C TASK 2-43
DATE/TIME SAMPLED: 08/29/89 11:55:00

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	6540	mg/kg	225
Total Solids	89	%	-

4845C TASK 2-44
DATE/TIME SAMPLED: 08/29/89 12:10:00

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	4520	mg/kg	217
Total Solids	92	%	-

4845C TASK 2-45
DATE/TIME SAMPLED: 08/29/89 15:50:00

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	2820	mg/kg	215
Total Solids	93	%	-

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4845C TASK 2-46
 DATE/TIME SAMPLED: 08/29/89 16:05:00

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	5830	mg/kg	217
Total Solids	92	%	-

4845C TASK 2-47
 DATE/TIME SAMPLED: 08/30/89 07:50:00

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	5320	mg/kg	278
Total Solids	72	%	-

4845C TASK 2-48
 DATE/TIME SAMPLED: 08/30/89 08:10:00

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	2580	mg/kg	263
Total Solids	76	%	-

4845C TASK 2-49
 DATE/TIME SAMPLED: 08/30/89 10:00:00

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	5460	mg/kg	253
Total Solids	79	%	-

4845C TASK 2-50
 DATE/TIME SAMPLED: 08/28/89 11:35:00

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	1490	mg/kg	235
Total Solids	85	%	-

4845C TASK 2-51
 DATE/TIME SAMPLED: 08/28/89 15:00:00

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	3070	mg/kg	235
Total Solids	85	%	-

Lab Number: S908UB
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4845C TASK 2-52
 DATE/TIME SAMPLED: 08/29/89 10:00:00

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	1640	mg/kg	244
Total Solids	82	%	-

4845C TASK 2-53
 DATE/TIME SAMPLED: 08/30/89 13:30:00

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	2430	mg/kg	227
Total Solids	88	%	-

4845C TASK 2-54
 DATE/TIME SAMPLED: 09/05/89 08:15:00

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	1940	mg/kg	253
Total Solids	79	%	-

4845C TASK 2-55
 DATE/TIME SAMPLED: 09/05/89 10:50:00

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	6300	mg/kg	465
Total Solids	43	%	-

4845C TASK 2-56
 DATE/TIME SAMPLED: 09/05/89 12:15:00

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	822	mg/kg	263
Total Solids	76	%	-

4845C TASK 2-57
 DATE/TIME SAMPLED: 09/05/89 14:00:00

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	1200	mg/kg	238
Total Solids	84	%	-

Lab Number: S908UB
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4845C TASK 2-58
DATE/TIME SAMPLED: 09/06/89 07:50:00

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	5210	mg/kg	357
Total Solids	56	%	-

4845C TASK 2-59
DATE/TIME SAMPLED: 09/06/89 09:30:00

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	2700	mg/kg	328
Total Solids	61	%	-

4845C TASK 2-60
DATE/TIME SAMPLED: 09/06/89 16:45:00

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	670	mg/kg	270
Total Solids	74	%	-

4845C TASK 2-60 (DUP.)
DATE/TIME SAMPLED: 09/06/89 16:45:00

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	1640	mg/kg	274
Total Solids	73	%	-

4845C TASK 2-61
DATE/TIME SAMPLED: 09/06/89 12:30:00

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	329	mg/kg	241
Total Solids	83	%	-

4845C TASK 2-62
DATE/TIME SAMPLED: 09/06/89 07:45:00

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	2550	mg/kg	278
Total Solids	72	%	-

Lab Number: S908UB
Page Number 12 of Results

4845C TASK 2-63
DATE/TIME SAMPLED: 09/06/89 08:30:00

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	668	mg/kg	247
Total Solids	81	%	-

4845C TASK 2-64
DATE/TIME SAMPLED: 09/05/89 14:00:00

<u>Test</u>	<u>Concentration</u>	<u>Units</u>	<u>POL</u>
Total Organic Carbon	1000	mg/kg	235
Total Solids	85	%	-

Sample Results Based on Dry Weight.
BQL: Below Quantitation Limit
PQL: Practical Quantitation Limit

<u>Test</u>	<u>Analyst</u>	<u>Date/Time Analyzed</u>
Total Organic Carbon	JM	09/11-14-25/89 00:00
Total Solids	JM	09/18/89 14:00

ENVIRONMENTAL INDUSTRIAL RESEARCH ASSOCIATES, INC.
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St. Rose, Louisiana 70087
(504) 469-0333

METHODS

USEPA Methods for Chemical Analysis of Water and Wastes,
EPA-600/4-79-020, Revised March, 1983.

Total Solids Method 160.3

Procedures for Handling and Chemical Analysis of Sediment and Water Samples,
May 1981

Total Organic Carbon Method CE-81-1

Technical Review/Clerical Accuracy/Report Completeness Certified By:

Susanne B. Purvis

Susanne B. Purvis
Project Coordinator

10/12/89

Date

Method Compliance Certified/Data Released By:

John R. Troost
V.P./General Manager Operations

10/12/89

Date

EIRA

ENVIRONMENTAL INDUSTRIAL
RESEARCH ASSOCIATES, INC.

AR305945

WESTON SM

**APPENDIX B
DPO REPORT**

AR305946

WESTON INORGANIC DATA VALIDATION SUMMARY

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Date Review Completed: 11/17/89
 Case No.: 5454845C-Task 2
 Site Name: Keystone Sanitation
 Sample Nos.: 4445C-Task 2-01 -
 4845C-Task 2-G4

Contract Lab.: EIRA
 Contract No.: 68-01-7414
 Lab DPO:
 Reviewer: Mahboobeh Mehanic
 From Region III/ESAT
 Phone: (301) 266-9887

CONCENTRATION

MATRIX	low	med	high	MATRIX RELATED COMMENTS
soil/solid	64			
aqueous				
other				

ICP	OK	FYI	Action	COMMENTS
Holding Time				
Calibration Blanks				
Initial Calibration				
Continuing Calibration				NIA
Preparation Blank				
Interference Check Sample				
Lab Control Sample				
Lab Duplicate				
Matrix Spike				
Serial Dilution				

FURNACE	OK	FYI	Action	COMMENTS
Holding Time				
Calibration Blanks				
Initial Calibration				
Continuing Calibration				NIA
Preparation Blank				
Lab Control Sample				
Lab Duplicate				
Matrix Spike				
Duplicate Injections				
Analytical Spike				

TOC	OK	FYI	Action	COMMENTS
MERCURY & CYANIDE	X			
Holding Time	X			
Calibration Blank	X			
Initial Calibration	X			
Continuing Calibration	X			
Preparation Blank		X		4.0 - 6.0 PPM
Lab Duplicate		X		37%, 74%
Matrix Spike	X			

REVIEWER'S COMMENTS:

DOCUMENTATION ATTACHED (see following pages)

AR305947

DPO ISSUES

1. As per the SAS request the laboratory was to reanalyze the sample and its duplicate if duplicate results exceeded the control limit. Two (2) out of three (3) laboratory duplicate results were outside of the control limit (RPD >35%) but they were not reanalyzed. See Appendix C, P. 4.
2. A detection limit of 10 mg/Kg was requested by the SAS. The laboratory was not able to meet this detection limit, instead a detection limit of 200 mg/Kg was reported.
3. The source of the QC check sample was not provided, as it was requested by the SAS. Also, there was not a summary form for QC check sample recoveries.

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WESTON SM

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APPENDIX C
SUPPORT DOCUMENTATION

AR305949

A. Blanks

- (1) Prior to analysis of field samples, the laboratory must demonstrate (and document) the absence of laboratory blank contamination with one or more preparation blanks (i.e. blank carried through the entire sample prep/analysis sequence) using the identical equipment and reagents and reagent water that will be used for the prep and analysis of field and lab QC samples. Appropriate corrective action must be taken to identify and correct any source of contamination prior to the analysis of field and lab QC samples.
- (2) Failure to obtain preparation blank values less than the required detection limit requires that all samples prepared with that preparation blank be re-prepared and re-analyzed for the affected parameters.

B. Duplicates - RPD exceeds specified control limit

- (1) If duplicate results exceed the control limits (see Item 12), re-analyze the sample and its duplicate for the affected parameters and report new values if within control limits
- (2) If re-analysis still results in control limits being exceeded, report both results and flag data as per SOW 787 requirements.
- (3) A written explanation of the action taken must be provided in the case narrative and all raw data must be included with the data package.